THE CHINESE REPEATING CROSSBOW

HERE we have surely the most curious of all the weapons I have described. Though the antiquity of the repeating crossbow is so great that the date of its introduction is beyond conjecture, it is to this day carried by Chinese soldiers in the more remote districts of their empire. In the recent war between China and Japan, 1894-95, the repeating crossbow was frequently seen among troops who came from the interior of the first-named country.

The interesting and unique feature of this crossbow is its repeating action, which though so crudely simple acts perfectly and enables the crossbowman to discharge ten arrows in fifteen seconds. When bows, and crossbows which shot one bolt at a time, were the usual missive weapons of the Chinese, it is probable that the repeating crossbow was very effective for stopping the rush of an enemy in the open, or for defending fortified positions.

For example, one hundred men with repeating crossbows could send a thousand arrows into their opponents' ranks in a quarter of a minute.

On the other hand, one hundred men with bows, or with ordinary crossbows that shot only one arrow at a discharge, would not be able to loose more than about two hundred arrows in fifteen seconds. The effect of a continuous stream of a thousand arrows flying into a crowd of assailants-in so short a space as fifteen seconds-would, of course, be infinitely greater than that of only two hundred in the same time, especially as the arrows of barbaric nations were often smeared with poison.

The small and light arrow of the comparatively weak Chinese crossbow here described had little penetrative power. For this reason the head of the arrow was sometimes dipped in poison, in order that a slight wound might prove fatal.

The impetus of the heavy bolt of the mediaeval European crossbow which had a thick steel bow, was sufficient to destroy life without the aid of such a cruel accessory as poison.

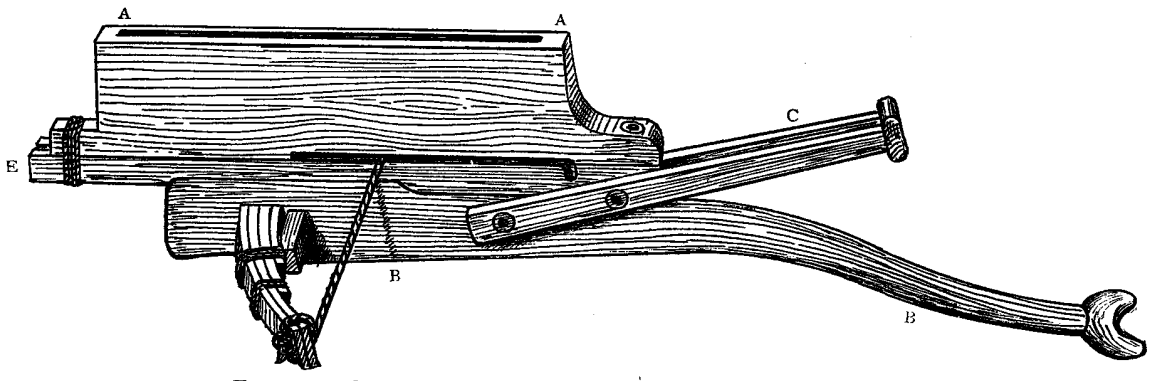

FIG. 171.—SIDE VIEW OF THE CHINESE REPEATING CROSSBOW.

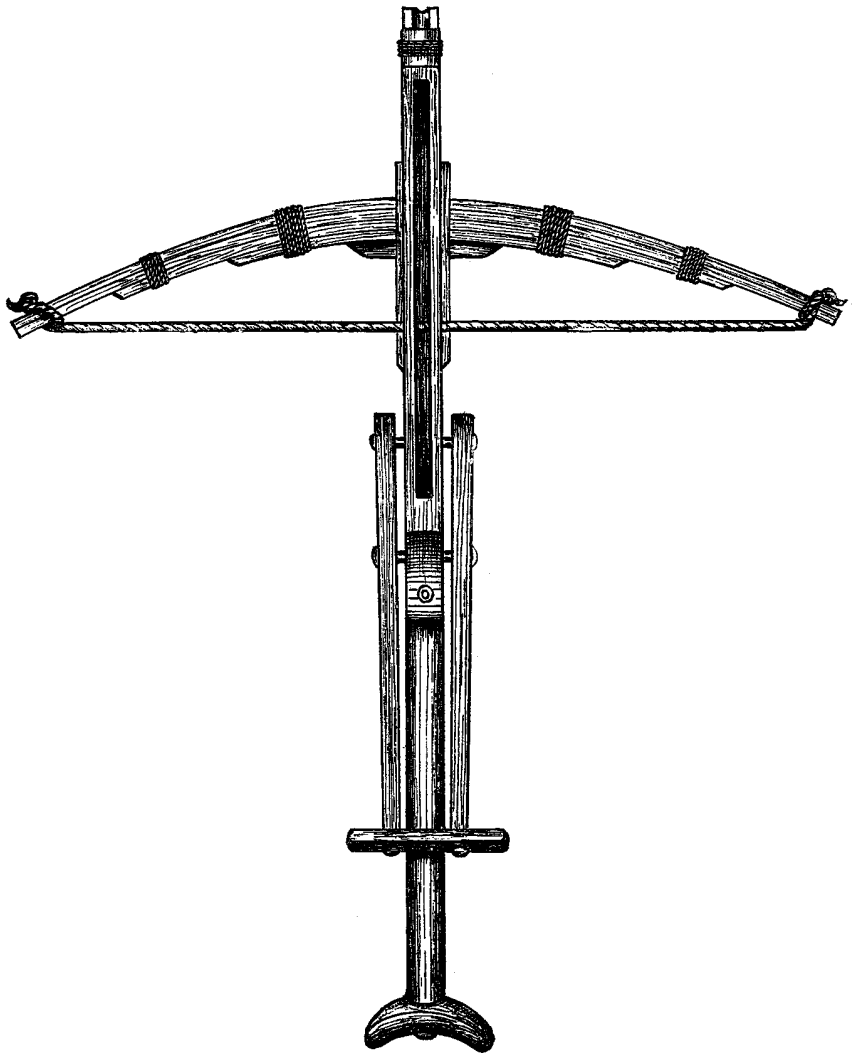

FIG. 172.—SURFACE VIEW OF THE CHINESE REPEATING CROSSBOW, SHOWING THE OPENING AT THE TOP OF ITS MAGAZINE.

THE CONSTRUCTION OF THE CHINESE REPEATING CROSSBOW, Figs. 171, 172

A, A.	The magazine in which the ten or twelve small arrows are laid (one on the other) when the weapon is made ready for use.
B, B.	The stock in which the bamboo bow is fixed.
C.	The lever that works the crossbow. The lever is hinged to the stock of the crossbow and its magazine by metal pins, fig. 174.
E.	The piece of wood along the upper surface of which a groove is cut. for an arrow to rest in, and that also has a notch in it to hold the bowstring.

This piece is attached to the magazine and forms the lower part of it.

HOW TO WORK THE CROSSBOW, FIG. 174

By pushing forward the magazine by means of the lever, the bow-string is automatically caught in the notch above the trigger, A, fig. 174.
At the moment when the bow-string is thus secured, an arrow falls from the magazine into the groove cut out in front of the notch. An arrow cannot drop from the magazine into the groove till the bow-string is in the notch, fig. 175.
The trigger consists of a little piece of hard wood. When the lever is fully pulled back the trigger pushes the stretched bow-string upwards out of the notch that holds it, B, fig. 174. The trigger works in an upright slot. It has its upper end enlarged to prevent it from dropping out of the slot in which it moves up or down, fig. 173,

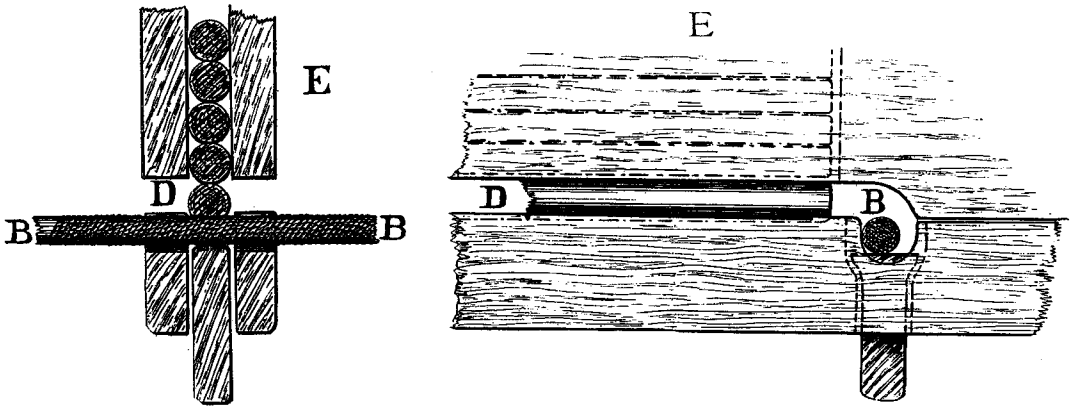

FIG. 173.—THE ACTION OF THE TRIGGER OF THE CHINESE REPEATING CROSSBOW.

B, The bow-string in the notch above the trigger ; D, An arrow in the groove in front of the bow-string ; E, The magazine which contains the supply of arrows.

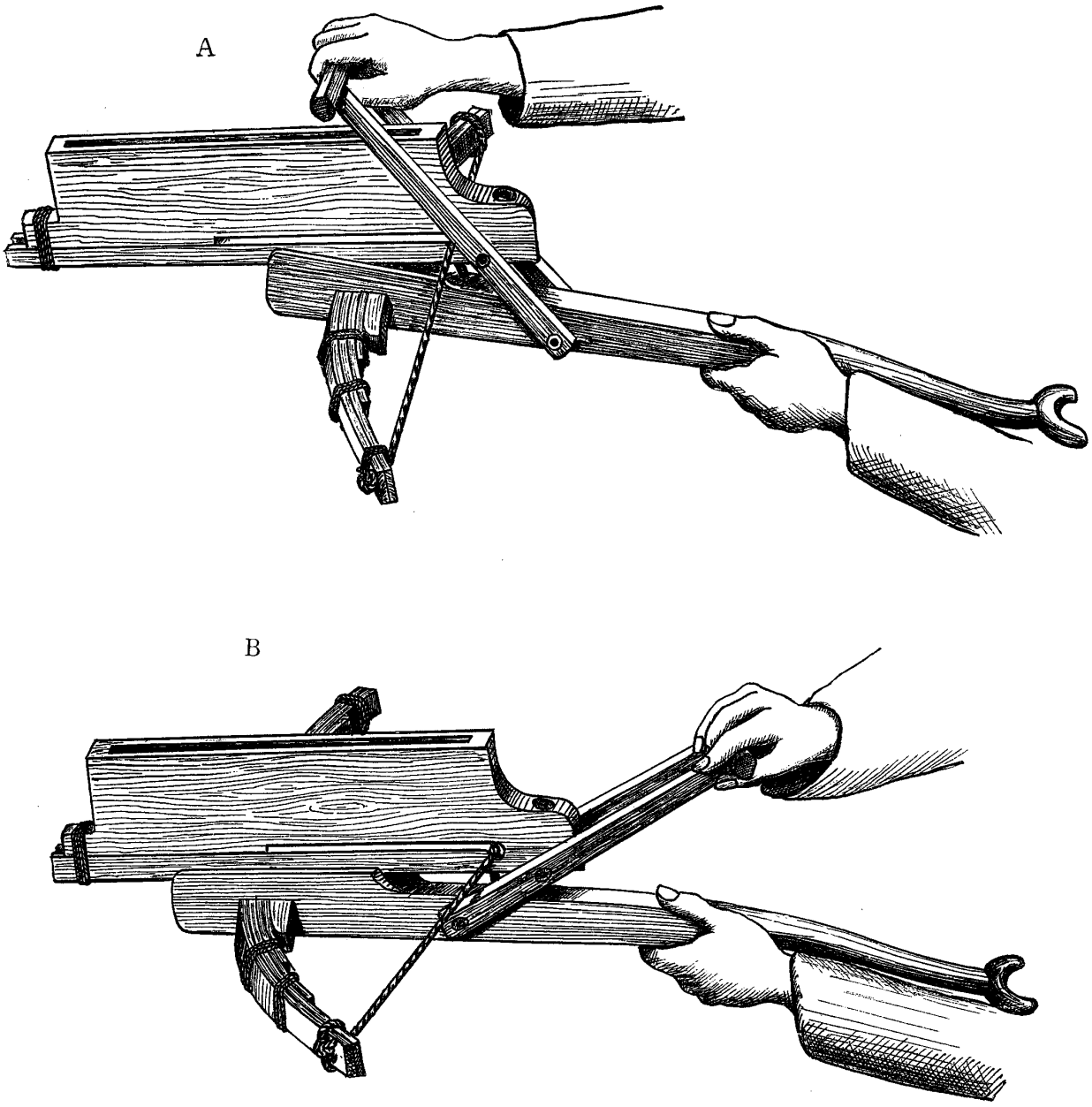

FIG. 174 -THE ACTION OF THE TRIGGER OF THE CHINESE REPEATING CROSSBOW.

A. The magazine, full of arrows, pushed forward by the lever. The bow-string is caught in the notch above the trigger.

B. The crossbow just before it is discharged. The trigger, as its lowest extremity is pressed against the surface of the stock by the action of the lever lifts the bow-string out of the notch.

B, fig. 174. The lever is here pulled back, with the result that the bow is bent and the bow-string stretched. By pulling back the lever a little farther than shown in this sketch, the projecting end of the trigger will be pressed against the surface of the stock of the crossbow. This causes the upper end of the trigger to lift the bow-string out of the notch and set it free. The arrow is then discharged and the crossbow returns to the position shown in fig. 171, and is ready for the next shot. From this description, it will be understood how simple and rapid is the action of the crossbow. All that

need be done to shoot off the arrows contained in its magazine, is to work the lever to and fro as slowly or as quickly as desired.
It is even possible to discharge a dozen arrows in fifteen seconds.

By a slight alteration in the construction of the crossbow it was sometimes made to shoot two arrows, instead of one, every time its bow recoiled.
In such a case, the magazine and stock were about ¾ in. wider than in the weapon just described. The magazine had a thin partition down its centre which divided it into two compartments. On each side of the central partition a dozen arrows were laid, one over the other. The bow-string passed over two parallel grooves instead of over a single one, each groove being, of course, exactly beneath a compartment in the magazine. As the lever was worked, two arrows dropped from the magazine and remained side-by-side, one in each groove, both arrows being propelled together when the bow-string was released.
By means of this arrangement one hundred men could discharge two thousand arrows in fifteen seconds, or double the number which one hundred men could shoot off in the same time with the ordinary repeating crossbow.

The effective range of these Chinese weapons was about 80 yards; their extreme range from 180 to 200 yards. The bamboo arrows, though short and light, were well made and had steel heads that were heavy in proportion to the length of their shafts. They had no feathers, so that their freedom of movement might not be impeded as they dropped one by one from the magazine when the crossbow was being used.
For the same reason, the width of the magazine-inside-was slightly in excess of the diameter of the arrow.
The length of the arrow was from 12 in. to 16 in., according to the size of the crossbow; its diameter 5/16 in. to 3/8 in.
The bow was made either of one stout piece of male bamboo, about 3 ft. 6 in. long, or of several flat strips lashed together.
In the latter case, the bow-string passed through a hole in each end of the bow, fig. 174. The bow-string consisted of animal sinew twisted into a cord of suitable strength.

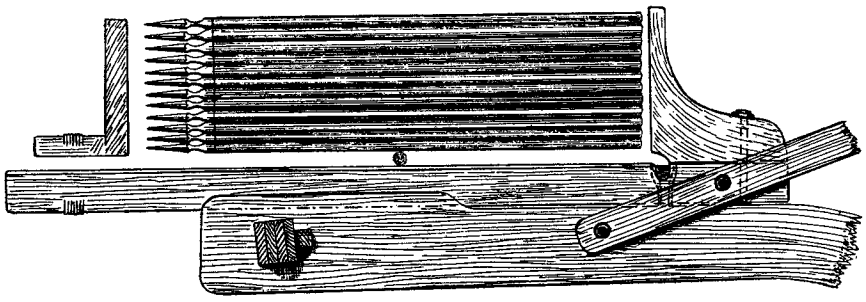

FIG. 175.-THE MAGAZINE OF THE CHINESE REPEATING CROSSBOW WITH ITS SIDES REMOVED.

It will be seen that an arrow cannot drop down from the magazine into the groove along which the bow-string travels till the latter is in the notch above the trigger, as shown in A, fig. 174.